LIFE ASSURANCE PRIMER

OF THE

BRITON LIFE ASSOCIATION

P. J. THOMPSON

THE

LIFE ASSURANCE PRIMER:

BEING

THE PRIZE ESSAY

OF THE

Briton Life Association, Limited,

BY

P. J. THOMPSON,

L.R.C.P., M.R.C.S.

"*Velut unda labens, nihil est velocius annis.*"

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PREFACE.

THE origin of this little Work may be briefly told. The Directors of the BRITON LIFE ASSOCIATION, thinking there was an opening for a plain and simple treatise or primer on Life Assurance, determined last year to offer a prize for such a treatise, and invited Dr. Richardson, F.R.S., the Deputy-Chairman of the Company, and Mr. W. S. Savory, F.R.S., one of the Medical Examiners, to join me in the task of adjudication.

The Committee for adjudication so constituted received no fewer than thirty-six Essays, all good, and many so exceptionally

good that a long and very laborious adjudication was required. In the end, the choice fell on the Essay bearing the motto, "*Velut unda labens, nihil est velocius annis,*" and on breaking open the envelope containing the name of the writer, it was found that Dr. P. J. Thompson, of 14 Rue d'Egmont, Brussels, was the successful competitor.

The next and pleasing duty of the Directors is to submit the Essay to the further test of public opinion.

JOHN MESSENT, F.I.A.

BRITON LIFE ASSOCIATION,
429 STRAND, LONDON, W.C.
January 1885.

INTRODUCTION.

THE definition we find, in most of our standard dictionaries, of the word "*Insurance*," is "security or contract to make good a loss. Contract whereby, for a stipulated consideration called a premium, one party undertakes to indemnify the other against loss by certain risks." (*Webster, Ogilvie, Latham.*)

A much clearer and fuller explanation, however, of the meaning and object of Insurance is that given in the opening sentences of the article on this subject in the "Encyclopædia Britannica" (IXth edition.) "Insurance is the system or machinery by which it is sought to guard against the pecuniary consequences of certain accidents to which men are liable, such

as the loss of property by fire or shipwreck, the loss of future earnings through disablement or premature death. Insurance does not attempt to prevent these accidents, nor even to protect men against all the consequences of them. It deals only with the main pecuniary loss which such accidents are fitted to occasion, provides for it beforehand, practically distributes it amongst the persons who are more or less exposed to the same risk, and so, when the accident does light on any one of them, its pecuniary effects are neutralized or greatly mitigated."

In the following pages we purpose treating only of the system of Insurance as applied to the various contingencies of life, and which is known as *Life Insurance*.*

* Recently *Assurance* has been used in England in relation to life contingencies, and *Insurance* in relation to other contingencies (*Webster*).

It will have been gathered from the foregoing quotations that the whole system rests on the pecuniary equalisation of the risks of life. To equalise two things it is, of course, necessary to know their present values. The first point we shall thus have to consider with regard to life is its value, or, in other words, ts probable duration.

As we all know, nothing is so proverbially uncertain as the number of years longer any given person will live; statistics, however, have shown that, taking a large mass of individuals, nothing is so constant as the percentage of those who die at various ages, or the average duration of their lives on the whole. The results of these observations, or, as we might call them, statistical laws, have been embodied in tables known as *Life and Mortality Tables,* and on these are based the entire fabric of Life Assurance.

The points to be considered in respect of money resolve themselves into the various operations of *interest, i.e.,* the increase of money by interest, as well as the calculation of annuities. These operations being universally and thoroughly understood we shall not discuss them in these pages.

The scope of this Primer will not permit us to expose the intricate formula by which "Actuaries" (the managing directors of Life Assurance Offices) establish the money value of any given life, and we shall, therefore, have to content ourselves with giving the principles on which these calculations are based and their most important results.

HISTORY OF LIFE ASSURANCE IN ENGLAND.

The *Amicable* Society for a perpetual Assurance Office is generally stated to have been

the first Life Assurance Company founded in England. It obtained a Royal Charter in 1706, and was to have consisted of 2,000 Members, whose ages were not to be under 12 or over 55; the extreme limit being, however, reduced before long to 45. In its early days the rates were the same for all members, and the amount paid after death varied according to the funds in hand. In 1734 arrangements were made for the payment of a sum of not less than £100 at death, and in 1807 the premiums were for the first time fixed according to "age and other circumstances."

The *Union* Assurance Society, the *London* and the *Royal Exchange* Assurance Corporations followed towards 1720; they also included Life Assurance amongst their other business.

The *Equitable*, the most celebrated and oldest surviving Company of this period, was formed in 1762 for the "Assurance of fixed

sums at death." Its rates were from the first calculated according to age. The *Pelican* was founded in 1797. All of these were purely *mutual* offices, as they are termed.

At the beginning of the present century there were eighty Offices in existence, and the number went on increasing till 1844, by which year we find one hundred and forty Societies had been formed; about forty of these, however, had already been dissolved or wound up.* Mr. Walford calls the period from 1816 to 1844 the "golden age of Life Assurance."

The year 1836 is memorable for the foundation of the *West Middlesex*, which turned out to be so disastrous a failure and was attended with such deplorable results that the notice of the legislature was attracted to the subject. Towards the close of 1844 a Parliamentary

* Life Assurance Guide and Handbook.

enquiry was held which resulted in the Joint Stock Companies' Act of that year.

The working of this Act did not prove satisfactory. Bubble companies sprang up in all directions and disappeared after the shortest possible period of existence, the unfortunate public being heavily mulcted each time.

A Select Committee enquired into and reported on the whole subject of Assurance Associations in 1853, but no definite action was then taken. In 1862, by the Companies' Act of that year, the principle of limited liability was made optional to all Life Assurance Companies, existing or future.

A Special Act, called the Life Assurance Companies' Act (33 and 34 Vict., cap. 61.) was passed in 1870, and, as slightly amended in 1871 and 1872, now regulates all matters relating to these Companies. Its principal provisions are as follows :—

I. A deposit of £20,000 has to be lodged by the promoters of every new Society with the Court of Chancery.

II. Annual accounts and periodical valuations have to be made according to given schedules, and sent in to the Board of Trade to be laid before Parliament. The valuations are compulsory every five years on the Companies formed after the passing of the Act (9th August 1870), and every ten years on those existing at that date.

III. The Act forbids the transfer or amalgamation of any Company without the special sanction of the Courts; and

IV. provides for the winding up of the Company in the event of its neglecting to comply with the Act, or of the Courts being satisfied that the Office is insolvent.

This Act, at last, put an end to the formation of these bubble Companies, and to

such ruinous proceedings as the amalgamations effected by the *Albert* and *European* Societies. But it has in no way proved a check to the growth of Life Assurance business, as will be seen from the following table, which gives some of the principal items from the returns to the Board of Trade for 1871 and 1882 :—

INCOME.	1871.	1882.
Total Premiums	...£9,743,600	...£14,143,699
Considerations for Annuities	... 254,133	... 596,221
Interest and Dividends ...	... 4,040,175	... 5,548,012
Miscellaneous Receipts ...	... 115,511	... 258,178
	£14,153,419	...£20,546,110
OUTGO.		
Claims	...£8,200,993	...£10,524,664
Bonuses surrendered for cash and returned Premiums	... 1,063,087	... 1,651,951
Annuities...	... 386,867	... 531,851
Expenses	... 1,870,392	... 2,685,402
Miscellaneous	... 106,771	... 632,283
	£11,628,110	...£16,026,151
TOTAL ASSETS ...	... £92,332,222	...£159,936,216

The Blue Book for 1871 contains the names of 107 Companies, the one for 1882

those of 111. In these numbers are included the so-called Industrial Societies' Insurance Companies, specially suited to the requirements of working men and labourers.

CLASSES OF LIFE ASSURANCE COMPANIES.

The writer in the "Encyclopædia Britannica," from whom we have already quoted,* tells us in the chapter on the constitution of Offices that "the nature of Life Assurance is such as to render impracticable its successful prosecution as a matter of individual or private enterprise. To secure a sufficiently uniform operation of the laws of average, the transactions must be carried out on a scale quite incompatible with the sufficiency of private credit for their fulfilment; while the indefinite and lengthened periods over which they extend also mark them out as beyond the reach of individual responsibility."

* Mr. J. M. Low.

It is owing to these reasons that the business of Life Assurance has always been carried on by Companies. All Offices may be ranged under one of three classes—*mutual*, *proprietary*, and *mixed*.

In the early days of Life Assurance no data existed upon which to fix the premiums. Everything was done in a haphazard sort of way; all who assured paid the same rates, and at death divided the available funds in hand. If they died early they got a full share, but if they survived for any length of time they often fared very badly.

The first attempt at fixed policies was, as we said before, that successfully achieved by the *Amicable*. All the first Offices were thus strictly *mutual* Societies, in which the benefits, but in very many cases the losses only, were equally divided among all the members.

As soon as the risks began to be sufficiently

understood and reduced to a sort of mathematical calculation, Life Assurance was taken up by commercial men as a form of business and *proprietary* Offices were established. In these the shareholders, in consideration of certain fixed premiums, guaranteed the payment of the amount of the policy after death, and also took upon themselves all the risks; but, on the other hand, they retained all the profits.

Before long, however, it was found, on a closer investigation of the laws of mortality, that the premiums were far in excess of the risks incurred by the Companies. About this time, also, the *Equitable* commenced distributing large bonuses among its members. A strong reaction set in in favour of *mutual* offices, and it appeared as if the days of *proprietary* offices were numbered, when the happy thought struck them of dividing a large

share of the profits among the members; this was the origin of the third class, or *mixed* Offices.

At the present time there are very few, if any, purely *proprietary* Offices in existence—most of them having been changed into *mixed* Societies. So that we may say that two of these classes only—the *mutual* and *mixed*—now survive.

Besides the business of Life Assurance, as carried on by the Companies, there also now exists a system, authorized by Act 27 and 28 Vic., Cap. 43, which is worked in connection with the Post Office; but the transactions effected under this scheme do not reach to any very great amount.

LIFE, OR MORTALITY TABLES.

As we have stated before, the calculations respecting every kind of Life Assurance business are made by means of mortality or life tables. These tables show the number

of persons who out of a given number born or living at a certain age attain to greater ages, and the proportion or number of those who die in the intervals. They also give what is called the average "expectancy of life," that is, the average number of years longer a person may expect to live at any given age.

A great many of these tables have been constructed at various times, but we will only here briefly describe some of the more important ones.

Breslau Table, constructed in 1693 by Dr. Halley, the then Astronomer Royal, from the records of the births and burials of the city of Breslau, in Silesia, from 1687 to 1691. This was the first life table, and is of interest only on that account.

Northampton Table, based on the records of the parish of All Saints, Northampton,*

* For forty-six consecutive years, 1735-1780.

and formed by Dr. Thomas Price, a Unitarian preacher, was the first table of practical use. Owing to certain errors in its construction, it gives far too high rates of mortality at all ages, but proportionately too high for early ages, and too low for advanced ones. The result is that in those Companies which still use this table the young lives pay exorbitantly high premiums, which those of an advanced age on entering reap the benefit of at once, besides paying less than they ought to do.

Carlisle Table.—Constructed by Mr. J. Milne from data supplied to him by Dr. J. Heysham, and which consisted of two enumerations of the populations of St. Mary and St. Cuthbert, Carlisle, in 1780 and 1787, and the bills of mortality from 1779 to 1787. The premiums of by far the largest number of Offices were for a long time fixed solely by this table.

"Equitable" Experience.—Two tables have been published under this name. The first, in 1825, by Mr. Griffith Davies, shows the decrements of life among the members of the *Equitable* Society; the second, published in 1834, is a re-computation of the statistics of the same Office from 1762 to 1829, which we owe to Mr. Arthur Morgan.

Seventeen Offices' Experience.—In 1838 seventeen Offices agreed to collect and publish their experience. The table which embodies this was founded on 83,905 policies, 13,781 of which had fallen by death, 25,247 had been discontinued, and 44,877 were still in existence.

The peculiarity of this last table, as well as of the *Equitable Experience*, is, that it expresses the lapsing of policies, not of lives, as in many cases several assurances had been effected on the same individual.

English Life Tables.—We owe these, the first tables showing the mortality of the nation as a whole, to the labours of the late Dr. W. Farr, the eminent statistician. Soon after his appointment as Superintendent of Statistics, Dr. Farr constructed his *First English Life Table* from the results of the Census of 1841, and published it in the "Fifth Report of the Registrar-General." The *Second English Table* was based on the Census of 1841 and the records of deaths from 1838 to 1844 (7 years), and was included in the "Twelfth Report of the Registrar-General." The *Third* and last of these *English Life Tables* was published as a separate work in 1864; it embodied the results of the Censuses of 1841 and 1851, and of the death registers for seventeen years—1838-1854.

Institute of Actuaries' Life Tables.—These are the tables most in use at the present time

amongst Assurance Companies. They embrace the experience of twenty Offices—ten English and ten Scotch—down to the 31st of December 1863. The calculations were based on the following figures: 160,426 lives, of which 26,721 had died, 45,376 had discontinued, and 88,329 remained on the books. From these data four separate tables were constructed—the H^{M}, or healthy male table; the $H^{M\,F}$, or healthy male and female table; the H^{F}, or healthy female table; the $H^{M(5)}$, or healthy male table, the first five years of assurance being excluded. These tables were first published in 1869, and express the rate of mortality among picked lives. The H^{M} is the table most generally used.

Mr. Humphreys' Table is constructed from the mortality returns of 1876-1880. It is to be found in a paper read a few months ago before the Statistical Society. This, our most

recent table of mortality, will be seen to agree very closely with the H^M, which would tend to show that the average duration of life is now the same, among the whole population, as that of picked lives in 1863, and nearly two years in excess of the ordinary rate in 1853. We are not aware of any practical use having, as yet, been made of this last table.

NUMBER OF PERSONS LIVING AT DIFFERENT AGES ACCORDING TO THE VARIOUS TABLES OF MORTALITY.

AGE.	Northampton, 1780.	Carlisle, 1815.	Equitable, Davies, 1825.	Equitable, Morgan, 1834.	Seventeen Offices, 1843.	English No. 3. Males, 1864.	Institute of Actuaries' H^M, 1869.	Mr. Humphreys, 1883.—Mortality Returns, 1876-1880.	AGE.
10	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	10
20	904	943	951	928	933	945	962	961	20
30	773	873	879	861	863	863	899	897	30
40	641	786	786	784	787	771	823	813	40
50	503	681	681	692	695	661	727	705	50
60	359	564	536	559	560	517	589	563	60
70	217	372	361	360	358	324	381	357	70
80	83	148	169	140	133	116	139	134	80
90	8	22	23	13	13	14	15	17	90

TABLE SHOWING THE "EXPECTATION OF LIFE" ACCORDING TO THE FOLLOWING TABLES OF MORTALITY.

AGE.	Northampton, 1780.	Carlisle, 1815.	Equitable, Morgan, 1834.	Government Annuitants, Males, 1857.	Seventeen Offices, 1843.	English No. 3. Males, 1864.	Institute of Actuaries. HM. 1869.	Mr. Humphreys', 1883.	AGE.
						Ys. Ms.			
0	25·18	38·72	—	50·16	—	—	—	43·56	0
5	40·84	51·25	—	48·93	—	—	—	52·56	5
10	39·78	48·82	48·32	45·57	—	47 0	50·29	49·24	10
15	36·51	45·00	—	41·76	—	43 2	46·16	45·05	15
20	33·43	41·46	41·37	38·39	41·49	39 6	42·06	40·98	20
25	30·85	37·86	—	35·90	37·98	36 2	38·40	37·21	25
30	28·27	34 34	34·53	33·17	34·43	32 9	34·68	—	30
35	25·68	31·00	—	30·17	30·87	29 5	31·01	30·01	35
40	23·08	27·61	27·40	27·02	27·28	26 0	27·40	—	40
45	20·52	24·46	—	23·75	23·69	22 9	23·79	23·29	45
50	17·99	21·11	20 36	20 30	20·18	19 6	20·31	—	50
55	15·58	17·58	—	17·15	16·86	16 5	16·96	16·75	55
65	10·88	11·79	—	11·63	10·97	10 10	11·01	11·19	65
75	6·54	7·01	—	7·12	6·48	6 6	6·37	6·81	75
85	3·37	4·12	—	3·12	—	3 9	3·51	4·00	85

MODE OF CALCULATING PREMIUMS.

The first point to be determined in the calculation of the sum which will have to be paid as a premium for any given policy, is

the present value of the sum to be paid after death. The method by which this is calculated will be more easily understood by an example, and for this purpose we will again refer to the "Encyclopædia Britannica."

The table of mortality used in the calculation being the H^M of the Institute of Actuaries, 1869, we will suppose that 96,223 persons, aged 20, desire to assure their lives for £1, payable at death. What is the premium each of these would have to pay, the interest assumed being 3 per cent? We find that at the end of the first year, according to the H^M Table, 609 of these persons will have died, at the end of the second, 643, and so on till the whole number is extinguished.

The present value of £609, payable next year is $609 \times \frac{1}{1{\cdot}03} =$ £591·26; that of £643, payable the year after next, is $643 \times \frac{1}{1{\cdot}03^2}$ = £606·09, and so on.

On going through all these calculations, we find that the present value of the £96,223 payable at death, is £31,644, or that the present value of each £1 is ·31644 : ·96223 = ·32886 = 6s. 7d.

This sum of 6s. 7d. represents the *premium*, as it is technically called, or, in other words, the one sum each of these 96,223 persons would have to pay for a policy of £1, payable at death.

The *annual premium* is derived from this technical premium. In all Offices the premiums have to be paid in advance, and the sum of all the annual premiums must be equal to the single or technical premium. This is represented by the following formula : $P\ (1 \times a) = A$, or $P = \frac{A}{A \times 1}$ in which P stands for the annual premium required, a for the present value of the annuity of £1, and A for the single premium for the assurance of £1 at death. In

all these calculations, it must be remembered, the sum assumed is always £1.

The value of *a* or the annuity of £1 at age 20 is, according to the H^{M} Table, £22·0425.

By substituting the several values for the various symbols in this formula, we find that

$$P = \frac{\cdot 3288}{1 + 22\cdot 0425} = \frac{\cdot 3288}{23\cdot 0425} = \cdot 01428 = 3a\,2/5.$$

The annual premium at age 20 for the assurance of £1, payable at death, is therefore a little under *threepence-halfpenny*, and this is the amount each of these 96,223 persons would have to contribute every year during the remainder of his life for a policy of £1.

This "*net*," or "*pure premium*," as it is called, is derived directly from the mortality tables, and is calculated solely to meet the contingency of death. No Office could, however, be worked on pure premiums.

Certain additions must be made to them in order to provide for the expenses of management and any accidental loss.

In the early days of Life Assurance Companies a charge used to be made at entrance on every policy in order to meet the expenses. But it was found before long that the old tables gave far too high rates of mortality, and that the premiums alone were more than sufficient to meet all the costs, so the "*entry money*" was dropped.

At the present time most Offices use the more modern tables, which give lower rates of mortality, and add a certain percentage to the pure premiums for cost of management, etc. This addition is called a "*charge*" or "*loading*," and varies between 20 and 30 per cent., as a rule; the premiums so charged are now known as "*loaded*" or "*office*" premiums.

Some Offices of the *proprietary* or *mixed*

classes still charge the premiums calculated on the old Northampton table, and in this case no loading is added.

The annexed table shows that up to a certain age the pure Northampton rates are higher than the modern ones charged; but after a time they are a good deal lower owing to the fact, as we have pointed out before, of their being based on incorrect data.

Age.	Northampton Table 3 per cent. pure.			English Life Table No. 2, 3 per cent. pure.			English Life Table No. 2, 3 per cent. with 25 per cent. loading.			Difference between columns 2 and 4.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
15	1	18	7	1	7	10	1	14	9	+0	3	10
20	2	3	7	1	11	8	1	19	7	+0	4	0
25	2	8	1	1	15	9	2	4	8	+0	3	5
30	2	13	5	2	0	9	2	10	11	+0	2	6
35	2	19	10	2	7	0	2	18	9	+0	1	1
40	3	7	11	2	14	11	3	8	7	−0	0	8
45	3	17	11	3	5	1	4	1	4	−0	3	5
50	4	10	8	3	18	6	4	18	1	−0	7	5
55	5	6	4	4	16	11	6	1	2	−0	14	10
60	6	7	4	6	2	7	7	13	3	−1	5	11
65	7	10	9	7	16	4	9	10	5	−1	19	8

BONUSES.

In all Life Assurance Companies, established on sound principles and properly conducted, the business should always yield a surplus or profit. This profit is derived from different sources.

1. *The Economy of Management,* that is the bringing of the expenses and outlay in connection with the transaction of the business within the amount provided for by the loading of the premiums.

2. *The Rate of Interest* realized on the investments may be greater than that anticipated in the calculation of the premium, which is usually between three and four per cent.

3. *The Selection of Lives,* as a result of which the rate of mortality among the persons assured may be lower than that given by the

mortality tables. Thus, supposing the anticipation to be that 150 persons of different ages will die within the year and only 140 do actually die, the Company will receive *ten* more premiums than it had reckoned upon, besides one more year's interest on the reserve value of the ten policies.

4. *The Profits derived from various sources,* such as fines, increase in the value of investments, and also from the lapsing and cancelling of policies. Many policies are taken out for a short time only for the sake of a loan, or are allowed to lapse after a year or two owing to different causes ; in these cases the responsibility of the Company ceases, and the premiums already paid become forfeited. The whole of the money so paid is not, however, pure profit, as a large share of the first year's premium is absorbed by incidental expenses.

The mode of disposing of this surplus varies, as we have said before, in different Companies. After deducting the amounts to be added to the "assurance-," "annuity-" and "reserve-funds," in *mutual* Societies the whole amount remaining is divided among the members. In *mixed* companies a portion of the surplus, varying from one-third to one-tenth is reserved for the shareholders in consideration of the risks they run, and the remainder is divided among the lives assured. In both cases, however, to share in this division of profits, the policies must be on the participating scale.

There is also a great difference in the method and period of distribution. In all Companies a certain number of premiums, usually ranging between two and five annual, or the equivalent number of half-yearly or quarterly premiums, must have been paid to

entitle to a share in the profits. The division, as a rule, takes place every fifth or seventh year; in some few *mutual* Companies only, every year. After their period of probation, as it might be called, and during the intervals between the divisions, in some Companies the assured receive a prospective share according to the amount of their policies.

The "*bonus*" or share of profit accruing to each policyholder is calculated on many different plans.

1. In proportion to the total amount of the premiums paid since the last valuation, with or without the interest.

2. In proportion to the accumulated loading of the premiums.

3. In proportion to the reserve values of the policies.

4. In proportion to the difference between

the accumulated premiums and the reserve value of the policy in each case.

In America, more especially, a new method has been introduced within a comparatively recent date, the *Tontine System.* In the usual form the policyholders agree not to share in the profits for a certain number of years, which really means, in most cases, until the amount of the premiums paid under the policy, improved at the rate of interest assumed in the calculations, reaches the sum for which the policy has been taken out. This plan favours those lives who have exceeded the expectation period, for, as a small portion of the persons assured only do this, the number of those entitled to share in the profits is comparatively small, and the shares are proportionately large.

The bonuses are usually declared at their *reversionary value,* that is, the value they

would have at the time the policy becomes due; they may be taken in most Companies in either one of the following ways:—

1. *As an addition to the amount of the policy.* A policy for £100 on which a reversionary bonus of £5 has been declared, thus becomes a policy for £105, payable at death.

2. *As a payment in cash at its present value.* Thus a reversionary bonus of £5 on the policy of a person aged 30 would, according to the Carlisle Table 3 per cent., be worth £2 0s. 1½d., if taken in cash.

3. *As a reduction of the premiums payable.* Thus, taking the case of a life aged 30, paying an annual premium of £10 13s. 8d. for a policy of £400, on which a reversionary bonus of £5 had been declared, this

bonus might be surrendered for a single reduction of £2 0s. 1½d., or a yearly reduction of 1s. 10¾d. on the amount of the premium.

4. *For purchasing and extinguishing the last years' premiums estimated as having to be paid in respect of the Assurance.* An ordinary policy by this method becomes converted into one payable during the lifetime of the person assured. Thus, according to the Carlisle Table, the expectation of a person aged 29 is 35 years; in a Company whose calculations are based on this table, the first bonus would go towards the payment of the premium for the 74th year, and so on downwards, until all the future premiums had been paid.

5. *For purchasing a new policy for the amount of the reversionary bonus* free from any further payment; or a new policy, for

the amount the present value of the bonus would purchase for one year, the holder of the policy having to pay the future premiums.

"NET LIABILITY" OF OFFICES.

By the Life Assurance Companies' Act 1870, all Offices are now compelled to send in periodical valuations of their assets and liabilities to the Board of Trade. These investigations are usually made every five or seven years; they serve to show the present financial situation of the Office, and the amount of profit realised since the previous investigation, and coincide, therefore, with the distribution of bonuses.

The valuation of the liability of the Office on its policies is given according to a special schedule, an example of which we take from a parliamentary Blue Book.

Description of Transactions.	Particulars of the Policies for Valuation.				Valuation. Value by HM Table, Interest 4 per Cent.			
	No. of Policies.	Sums Assured and Bonuses.	Office Yearly Premiums.	Net Yearly Premiums.	Sums Assured and Bonuses.	Office Yearly Premiums.	Net Yearly Premiums.	Net Liability.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
ASSURANCES—								
I.—With Participation in Profits.								
Whole Life, &c.	319	96,861 7 2	2,925 9 5	2,088 0 0	45,844 0 0	36,485 0 0	26,301 0 0	19,183 0 0
II.—Without Participation.		—						
Whole Life, &c.	—		—	—	—	—	—	—
ANNUITIES.	—	—	—	—	—	—	—	—

Full particulars of all the Company's transactions have to be returned, as this example shows.

The last column in this schedule is the most important one, as it gives the "*net liability*" of the Office under its policies. By this is meant, the sums which the Company will have to provide, so as to meet the falling due of the policies. This amount is found by "*deducting the present value of the net yearly premiums to be received by the Company from the present value of the sums to be paid by the Company when these policies become claims.*"

In this valuation the net premiums only are taken into account, the whole of the loading being thrown off in order to make a provision for expenses of management. This appears, at first sight, a large amount to deduct, but it must be remembered that, in addition to the ordinary expenses, the first year's premiums

are in great proportion absorbed by the expenses of getting new business, such as commission, medical examiners' fees, etc.

So long as an Office is possessed of sufficient funds, after the payment of its other claims, to meet its net liability under its policies, it may be considered sound, and the sums remaining over and above this net liability may be looked upon as a surplus, and be distributed in bonuses. In most Companies, a portion of this surplus is usually set aside for the payment of "*prospective bonuses*," that is, of bonuses on policies which may become due before the next period of investigation. In some Companies a fixed rate is assumed, in others, the same rate is paid as that declared at the last division.

SELECTION OF LIVES.

As we have stated before, Assurance Offices always exercise the right of "*selection*," by

which is meant the power of choosing from among the candidates those only whom they think proper to assure.

All Life Assurance business is based on the rate of mortality of average lives, *i.e.*, a fair admixture of healthy and weakly persons, but the inducement to assure being far greater for diseased than for healthy persons, it will be readily understood that without this power of selection every Office would be besieged by unhealthy lives with a rate of mortality far above the average, and the business could not possibly be carried on. This explains the old custom of Assurance Companies only to accept the better class of lives.

It would naturally be expected that by this method of procedure the rate of mortality of assured lives would be far lower than that existing among the general population. But this happens for a short time and to a very

slight extent only. The general experience of Assurance Offices shows that, though for the first years the rate of mortality is below the average, this advantage decreases as years go on, until the death rate very nearly approaches the ordinary one.

This phenomenon is explained by the fact that healthy lives often drop their policies while diseased ones do all in their power to retain them. *Counter-selection* is the name given to this power of selection exercised by the assured against the Companies.

The following examples will serve to show the effects of selection and counter-selection on the rates of mortality. The figures are taken respectively from the English Life Table, No. 3, and the H^M and $H^{M(5)}$ Tables. The effects of selection are said to have worn off by the end of the first five years, which are not taken into account in the last table.

Age.		English L.T. No. 3.		H^M Table.		$H^{M\,(5)}$ Table.
30	...	863	...	899	...	869
50	...	661	...	727	...	689
70	...	324	...	381	...	353

As the selection of lives resolves itself into the choice of the healthy ones only, or, in other words, the discrimination between the healthy and diseased lives, it is delegated by the Companies to their medical officers. The means adopted by them for this purpose are the careful study of the family history of the proposer in its medical aspects and the thorough examination of the candidate himself. This regular medical examination has only been insisted upon within a comparatively recent period. Prior to about the year 1820 it was the custom of the Offices to make the applicant for assurance sign a declaration to the effect that he or she had not any disease of a nature to shorten life. The effect of hereditary disease

on the expectation of life had not yet been recognised, and no family history was, therefore, required. The proposer had also to give a reference to two persons of standing, one being, if possible, his medical attendant, and to personally appear before the board of directors, a custom prevalent in some Offices to the present time.

The nature and principles of Life Assurance business have, however, undergone great changes of late years. Now the whole responsibility of accepting a candidate may be said to be almost entirely thrown on the medical officer. If he accepts bad lives for good ones he will most likely be the cause of the Company having to pay claims before they should have become due; on the other hand, if he rejects good lives he is preventing the proper extension of the Company's business. It will be seen by this that the medical officer now

holds a position of great trust in the Company.

The object of the medical examination is to discover whether the proposer bears or not signs of any illness or disease past or present that may shorten his life, whether his appearance corresponds with that of a person of the age the proposer states himself to be, and whether he shows any signs of an occupation or habit of a nature to exert a prejudicial effect on his health or the duration of his existence.

The full results of this examination, conducted according to a given form, are embodied in a report which the examiner concludes by advising the Company to accept the proposal at ordinary rates, at an advance of a certain number of years' rates, or to reject it altogether, according to the state of health of the candidate.

This report (of a strictly private and confidential nature) is then sent to the board of directors, who possess the power of accepting or rejecting its conclusions.

FORMS OF ASSURANCE.

The different forms according to which Life Assurance is now carried out are very numerous, as will be seen by the long array of tables of rates in the prospectus of any Office. Of these the principal ones may be said to be

I. *Whole Term Assurances on Single Lives*, *i.e.*, policies payable at the death of one life.

II. *Endowment Assurances* for the payment of a given sum on the attainment of a certain age, the policy being made payable earlier should death occur sooner; and simple *Endowments* for children payable at age 21, the premiums paid on which, in the event of

death before that age, are either forfeited or returned without interest.

III.—*Assurances on Joint Lives.* In this form the premiums are payable as long as both cf the assured members are alive, the policy being paid to the surviving member on the death of the first.

IV.—*Longest Life Assurances, or Assurances on Last Survivor.* Here the policy only becomes due at the death of the last surviving member.

V.—*Temporary, or short period Assurances.* The policy is paid in the event only of death occurring within this period.

VI.—*Contingent survivorship Assurances, or Assurance of one Life against another.* By this plan, for an annual premium, payable during the joint continuance of two lives, A and B, the policy becomes payable at the death of A, but only in the event of B surviving him.

In most of these the policies may be on the profit or non-profit scale, and bear payment of a single or of annual premiums.

Another form of business transacted by Assurance Offices is that of *Annuities.* This may be said to be just the reverse of Assurance, for here the capital is first deposited by the proposer in the hands of the Company, and in consideration of this, he, the annuitant, receives a fixed premium, or annuity, from the Office during the remainder of his life.

In the ordinary form of Life Assurance business it is altogether to the advantage of the Company that the assured should live beyond the expectation period. The reverse is the case with annuities, for the Office, of course, finds its advantage in the speedy and early deaths of the annuitants. No medical examination is required in the case of annuities, as would naturally be expected.

The general experience of Assurance Offices shows that, with regard to the sex of the persons assured, there is very little difference indeed in the rate of mortality; assured women as a rule living no longer than assured men. The rates of premium charged are, for this reason, the same in both cases. With annuitants, however, the difference is very well marked. Thus the average duration of life among women is about three years in excess of that among men. The same sum will in all Offices, therefore, purchase a larger annuity for a man than for a woman.

DIFFERENT SYSTEMS OF PREMIUMS.

Under what is called the *Half-credit System* one-half of the first five annual premiums under policies effected for the whole term of life on the profit or non-profit scale may remain as a debt upon the policy. The person

assured must not, however, be over a certain age. Interest is always charged on the amount of the debt, which may be liquidated at any time or remain to be deducted when the policy becomes payable.

Thus, suppose a man aged 20 assures his life for £1,000, at a premium of £25 per aunum, and dies within the next two years without having paid off any portion of the debt. The policy would be settled for :—

Amount Assured		£1,000 0 0
Deduct £12 10s. at compound interest for two years ...	£13 15 8	
Also £12 10s. at 5 per cent. for one year	13 2 6	
		26 18 1
Sum obtainable for policy		£973 1 11

Under the *Half-premium System* the same policy might be effected on the payment of an annual premium of somewhat more than half the usual one during the first five or ten

years, and, during the remainder of life, for a premium a little in excess of the full ordinary one, but under this system there would not be a debt attached to the policy.

The rates charged under the *Minimum Premium System* (Tontine) are very low, on account of the right to participate in the bonuses being deferred till the life has attained the full expectation period.

The Quinquennial ascending scale of Premiums may be said to be ouly another form of the half-premium system, for the rates increase periodically for fifteen years and afterwards continue uniform during the remainder of life, as will be seen by the following example :—

Annual Premiums for Assuring £100 at Death, at age 30.

1st 5 Years.	2nd 5 Years.	3rd 5 Years.	Remainder of Life.
£1 5 0	£1 10 0	£1 15 0	£1 19 11

It is often stated that by reason of the lower premiums on the non-profit scale and on

the minimum premium system a much larger policy can be obtained on payment of the same amount than on the profit scale and that an immediate bonus is thus secured and the advantages of the participation in the profits pretty nearly equalized. To a great extent we believe this to be true.

ORDINARY CONDITIONS OF POLICIES.

I. *Payment of Premiums.*—Premiums may be paid yearly, half-yearly, or quarterly.

II. No charges are made for entry, medical reports, or policies.

III. *Lapsing of Policies.*—Policies are held lapsed if the premium be not paid within a fixed period from the date stipulated. (This period varies between 21 and 30 days.)

IV. Lapsed policies may be revived at any period within a certain time (from six to twelve calendar months) from the expiry of

the days of grace, on payment of the arrears of premiums, with interest at 5 per cent., as a rule. In some Companies satisfactory proof of health has also to be produced.

V. *Payment of Policies.*—All claimants upon the decease of any person whose life has been assured by a Company must give proof thereof, and such further information respecting the death as the directors of the Company shall think reasonable.

In most cases both a Registrar's certificate and a detailed medical certificate of the cause of death are required. Satisfactory proof of title must also be produced.

VI. Claims are paid in most Companies within or at the expiration of three months after the requisite evidence of death has been furnished.

VII. Should death occur within the period of "grace" some Offices consider the policy in

force, if the premium be paid within the stipulated time; others consider it due before the payment of the premium, the premium so due being deducted from the sum assured at settlement.

VIII. *Suicide, duelling, &c.* — Policies granted to persons on their own lives become null and void if they commit suicide or die by duelling or by the hands of justice, so far as respects those persons, but they remain in force so far as any other person or persons shall then have a *bona fide* interest therein, acquired by assignment or by legal or equitable lien, upon due proof of the extent of such interest being made or having been made within a certain time previous to death to the satisfaction of the directors.

Some Companies, even in the case of death by suicide or otherwise, pay a sum equal to that which would have been paid as the

surrender value of the policy on the day preceding the decease.

IX. *Residence*--The assured who do not belong to the naval, military or mercantile marine services are commonly permitted to reside in any part of the world within such limits as north of 35° N. Lat. (except in Asia), or south of 30° S. Lat., and, in time of peace, to travel to and from any places within these limits without extra premium. A license is required for travel or residence out of the prescribed limits, and is granted on payment of a small extra premium. A duly assigned policy, or a policy effected by one person on the life of another, does not become void on account of the life assured going out of the prescribed limits, provided the person interested in the assurance notifies the fact to the Office within fourteen days from the date when it came to his know-

ledge, and pays the required extra premium.

X. *Indisputability*—At the expiration of a certain period (usually five years), and on the attainment of a certain age (in most Companies 25 to 30 years), the policies, in the generality of Offices, become indisputable, that is, they are freed from all restrictions, and relieved from all conditions except the payment of the premiums.

XI. In the event of inability to pay premium on an indisputable or non-forfeitable policy, a fully paid-up whole life policy may be obtained equivalent to the value of the premiums already paid.

TOTAL ABSTAINERS.

A few Companies assure total abstainers on more advantageous terms than other lives, thereby recognizing the fact that genuine teetotalers are longer lived, as a rule, than moderate drinkers. By genuine teetotalers,

we mean those who have taken the pledge, or abstain from alcoholic beverages through conviction, not the reformed drunkards or tipplers who only begin to give up their evil habits when their constitutions are thoroughly shattered and undermined.

INVALID LIVES.

In former days it was the custom of Assurance Companies to refuse all but perfectly healthy lives. It was found, however, that the effects of disease in shortening life could be ascertained with almost mathematical precision, and that the increased risk could be easily met by an addition to the premium. The system adopted was, first to calculate the probable number of years by which the expectation period was likely to be shortened, then to add this number to the actual age, and to charge the premiums required for the more advanced age.

Thus, a man aged 35, subject to gouty attacks, which are supposed to reduce the duration of life by *three* years, would be charged as if he were aged 38.

This plan has, on the whole, worked well in practice, but it has been found to act very harshly in many cases. It has come to be recognized that many invalids far outlive their expectation period, as they are very prudent and careful to preserve their health, and by this system of fixing the premiums all these have been very unjustly mulcted.

A new plan has lately been introduced which we consider far more equitable to both parties concerned. Instead of the old method of adding so many years to the candidate's age, and charging the premium accordingly, the ordinary rates are charged, and the difference between the two is made a debt on the policy which is diminished every year by

the amount of one year's difference, and so, when the life reaches the expectation period, the debt becomes altogether wiped out.

In the example given above a person would have to pay, say, an annual premium of £2 17s. 6d., if healthy, and £3 3s. 0d., if gouty, under the first system, for a policy of £100.

By the more recent method, the expectation of life at age 35 being 31 years, 31 times 5s. 6d. (the difference between £3 3s. and £2 17s. 6d.), or £8 10s. 6d., would remain as a debt on the policy, to be reduced by 5s. 6d. every year until the assured had attained the age of 66, when it would have entirely disappeared. The interests of both parties are thus fully secured, for the member gets the benefit of every additional year he survives, and the Company always has its future extra risk covered by the debt.

SURRENDER OF POLICIES.

It frequently happens that, after a certain number of years, owing to various causes, a person may wish to discontinue his assurance, but having paid, possibly, large sums in premiums, he will not like to let his policy lapse altogether, and so lose the benefit of his past payments. The question now comes to be: what is the value of his policy and what he is likely to obtain for it? If the premiums were fixed on a sliding scale, and represented every year the money risks of the Company, it would, of course, be out of the question altogether to expect *anything* for the surrender of a policy; the risk would have been incurred during a certain period for a certain sum, and, the risk being over, the contract would have come to a natural end.

Let us, however, carefully examine the following table, which we have taken from the "Encyclopædia Britannica":—

Age.	Yearly Premium.	Sum required in case of Death.	Difference between last two columns.
	£	£	£
30	1 · 880	· 750	+ 1 · 130
31	1 · 880	· 769	+ 1 · 111
32	1 · 880	· 787	+ 1 · 093
53	1 · 880	1 · 806	+ · 074
54	1 · 880	1 · 916	− · 036
55	1 · 880	2 · 042	− · 162
95	1 · 880	61 · 848	− 59 · 968
96	1 · 880	79 · 265	− 77 · 385
97	1 · 880	97 · 087	− 95 · 207

In this example, a man aged 30 is supposed to assure his life in a Company in which the premiums are calculated on the H^M Table of the Institute of Actuaries, the interest assumed being 3 per cent. In the second column of the table we have the net yearly premium, payable during the whole of life, and in the third the sum required by the Company in the event of the policy becoming due at the end of each year.

As will be seen at a glance, the sums received by the Company at the early ages are in excess of the risks run; but as years go on, the difference decreases until the risk run by the Company is quite out of proportion to the premium paid. And it will be readily understood that if the business is to be carried on at all, the surpluses so received during the early years, duly invested and accumulated, must make up for the difference between the amounts received and the risks run at the more advanced ages.

This accumulated excess represents, therefore, the sum which the Company should have in hand to meet the falling due of the policy, and is called the "*reserve value*" of the policy.

The surrender value of any policy is found by deducting the present value of the expected number of annual premiums from the amount of the present value of the sum payable at

death, together with the present value of the bonuses, but this value is subject to a reasonable reduction for the outgoing member's share of the initial expenses, and to recoup the Office for the selection made against it.

In the matter of surrendering a policy, the person assured enjoys a manifest advantage over the Company. The life may give up assuring whenever it suits his purpose to do so, but the Company is bound to its bargain, however bad it may subsequently turn out to be. It is only reasonable, therefore, that the assurer should be charged a certain amount if he uses this privilege.

The following not very exorbitant terms are, as a rule, offered by Companies :—

I. The policy must have been in force for a certain period—usually two or three clear years.

II. The policy will have a surrender value which is fixed by the rules of the Office governing such transactions.

III. The policy will be purchased for a sum payable immediately; or—

IV. A new Policy will be granted for a reversionary sum equivalent to the surrender value of the policy.

V. In the case of a policy effected on the non-forfeitable premium system, with a limited number of payments, the assurance remains in force for a reduced sum, which shall bear the same proportion to the sum originally assured as the number of premiums paid bears to the number originally payable by the terms of the policy. A paid-up Policy is not often granted, unless the surrender value is sufficient to admit of its being for a minimum £20.

VI. The Policy may be transferred to

another person of younger age, whose life shall be substituted for that of the orignal life assured, the amount of the policy being re-adjusted to meet the difference, if any, in the value of the risk.

LOANS ON POLICIES.

Loans are granted by most Offices on their own policies to within a trifling amount of their surrender value, when that value exceeds a certain sum, as a rule from £5 to £10. The interest charged is usually 5 per cent. per annum, but a reserve rate of 6 per cent. is sometimes inserted in the deed to be charged in case the interest is not paid within 14 days from the time when it falls due.

"They" (loans on policies), says Mr. Walford, "should only as a rule be made for the purpose of keeping the policy in force. * * * The benefits under such policies are supposed to be for the widow and

the orphan. If temporary pecuniary assistance be the only object of the person assuring, a life policy is not generally the most desirable form of security."

ADVANTAGES OF LIFE ASSURANCE.

Most writers on the subject of Life Assurance have especially considered the moral aspects of the question, but though we fully admit that it is a duty every man owes to the State and to himself to make proper provision for those he leaves behind him, we would rather treat solely of the material aspects of Life Assurance, and discuss its advantages as a means of investment.

Dr. Franklin, we are told, pronounced "a policy of Life Assurance" to be "the *cheapest and safest* mode of making a *certain* provision for one's family." No one, we believe, has ever disputed the fact of its safety, but

arguments are often brought forward to disprove its cheapness, and the sum of these is that a larger capital may be obtained by putting out money at compound interest than by investing it in assuring one's life.

Mr. Walford, in his "Life Assurance Guide and Handbook," to which we have had occasion to refer repeatedly in these pages, gives a table showing the comparative results of assurance against other investments. The sum taken as an example is £5, which on the one hand is supposed to be invested in the purchase of a participating policy in an Office founded on the Carlisle table of mortality, the age of the person being 30 and the premium charged £2 10s. per cent., or £5 for a policy of £200, giving bonuses equivalent to $1\frac{1}{2}$ per cent. per annum on the sum assured. On the other hand the amount is supposed to be

put out yearly at compound interest at four per cent. The results are given in the subjoined table, with Mr. Walford's comment.

Age of Assured	Age of Policy.	Amount of Policy and progressive accumulations.			Amount of investments at 4 per cent.			Difference.		
		£	s.	d.	£	s.	d.	£	s.	d.
30	1	200	0	0	5	0	0	+195	0	0
35	6	215	0	0	33	3	4	+181	16	8
40	11	231	2	6	67	8	10½	+163	13	7½
45	16	248	8	9	109	2	9	+139	6	0
50	21	267	0	5	159	17	3	+107	3	2
54	25	282	19	5	208	5	2	+ 74	14	3
55	26	286	19	2	221	11	9½	+ 65	7	4½
60	31	308	8	4	296	13	8	+ 11	14	8
61	32	313	0	9	313	11	0½	− 0	10	3½
62	33	317	14	9	326	1	10	− 8	7	1
63	34	322	10	0	339	2	8½	− 16	12	8½
64	35	327	6	6	352	14	0½	− 25	7	6½

"The Carlisle table upon which the comparison is founded says that at age 30 the future *expectation* of life is 34 years. What then is the greatest possible advantage B (who invests) can derive over A (who assures)? It is

that for three years—at the close of life—he may make by his investment a sum ranging from £8 to £25, while during the 31 previous years he has constantly been exposed to the chance of losing sums varying from £12 up to £195, as compared with A's investment over his own. Contrast the position of the two families. That of A is certain of a sum never less than £200 from the day the first payment is made. B must continue his investment for 24 years to entitle his family to such a sum; and, even at that period, he will be nearly £75 behind A, being the amount of bonus accumulation." We see that in this case the certainty of receiving from £200 to £300, lasting over 31 years, would cost the problematical loss of from £5 to £25 if life were prolonged for three years. This surely could hardly be called an expensive investment, and we should try in vain to find a *cheaper and*

safer method of making a *certain* provision in case of death.

What the chances of death are during this period of 31 years may be gathered from the fact that, according to the H^M Table of the Institute of Actuaries, of 89,865 persons living at age 30, 57,119 reach to age 61, and 51,373 to age 64, or, roughly speaking, of every 15 persons living aged 30 more than five will die before attaining the age of 61, and seven before getting to be 64.

We may thus say that for *one-half* of any given number of adult persons ordinary investments offer somewhat more favorable prospects than Life Assurance, but for *one-third* Life Assurance is the *only* method of making a certain provision in case of death. Which of us can ever be certain of being among the surviving number?

"Life Assurance places within the reach of

every man the power to purchase for his family an absolute reversion of a valuable estate at his death, whenever that may happen, upon the easiest possible terms, namely the payment by small instalments during life," says an Assurance Company in its prospectus. It might also have added that it enables a man to secure this reversion to himself on the attainment of a certain age, or to endow any one of his children with it on similar terms.

Cheapness with Security are the features which strike us most in this form of investment. When we look at the number of tables in the prospectus of a Company, and see the various forms which Life Assurance may take, we are also forced to acknowledge that it is most wonderfully adapted to the wants of modern society, and that few money transactions would not be improved or made more secure by a policy of Life Assurance. Thus

a father can secure a marriage portion for his daughter at a very small cost to himself, by assuring her life as soon as she is born; a son can provide a competency for his aged parent or an invalid brother or sister in the event of an accident happening to himself, by a policy on his own life; a husband is enabled to make a proper provision for his wife or children in case he should be suddenly removed from among them. But, to the wants of none, perhaps, is it better adapted than to those of professional men. In few paths of life, for instance, are the beginnings more arduous than those of a lawyer or doctor. They are expected to keep up a certain "appearance," and their incomes are seldom large enough at first to enable them to economise much. Assurance Companies have recognised this fact, and now, under what is called the half-premium system, they allow a man to take out a policy

on very favorable terms for the first few years, and to make up for the reduction afterwards by a higher rate of payment.

To a landed proprietor, whose estates are strictly entailed, a policy of Life Assurance is the means of leaving a fortune to be divided among his younger children. A wealthy man is enabled by it to largely endow a charity or a seat of learning without in any way disappointing his heirs.

In purely business transactions it also proves of the utmost value. Take the instance of a large city firm engaged in an extensive trade all over the world, and which will have to pay out a portion of its capital on the death of each of its partners. A sudden call for the large sum payable to the family of the deceased member of the firm might entail the most serious embarassment or loss upon the surviving partners: a difficulty

entirely obviated by a policy on the joint lives of the members of the firm. Take, again, the case of a youthful inventor, who has just discovered a new process or machinery which will revolutionise some branch of trade, but who has no capital to start it with and no property on which to raise money. A capitalist may be found ready to advance money on the security of a policy of assurance on the life of the inventor, if the discovery appear to possess some real value. Numbers of similar examples might be adduced, but we think the foregoing will be sufficient to prove what we have said of the advantages of Life Assurance.

A recent Act of Parliament has now put married women on a par with their husbands and unmarried sisters with respect to assurance, just as in all other business matters. As we have already stated, the benefits of this form of invest-

ment are now no longer withheld altogether from invalids, or, rather, rendered inoperative on account of the prohibitive rates.

We have dwelt rather at length on the advantages of Life Assurance to the assured themselves, and to their immediate connections, but it must not be forgotten that it is also of very great interest to the State.

The Poor Rates in this country now reach the enormous total of nearly £8,000,000 per annum, that is, the thrifty and provident are compelled to pay this amount every year for the support of the indolent and unthrifty. No better remedy, we think, could be found for the cure of this disgraceful national evil of pauperism than the scheme so ably advocated by the Rev. W. Lewery Blackley in the "Nineteenth Century" (November 1878), of National Insurance. The scheme consists in the compulsory deposit of £15, by every man

before attaining the age of 21, in a National Insurance Fund; the aggregate, it is stated, would be sufficient to insure to every man a weekly payment of 8s. in case of illness, and a regular allowance of 4s. after attaining the age of 70. This result could be obtained without the expenditure of one shilling of public money. We quite agree, therefore, with the reverend gentleman when he asserts that Life Assurance "affords a cheap, practical and popular means of abolishing the Poor Rates."

It must also be remembered that every shilling invested in the purchase of a life policy may be, among the working classes especially, a shilling saved from drink. How many young men are there who realize that, reckoning from their 20th year, with every shilling a week they thus waste, they are also throwing away a capital of £133 at their death.

LEGAL ASPECTS OF LIFE ASSURANCE.

A policy of Life Assurance, as we have said before, is a contract whereby, on the one hand, a person offers to pay a certain yearly sum during his life to the Company, which, on its side, binds itself to pay another fixed sum in return at his death, whenever that may happen. The amount of the policy is fixed by the person wishing to be assured; the amount of the yearly premium is determined by the Company on the strength of a medical examination of the person himself and of certain statements made by him. The statement as to age has to be proved by documentary evidence, *i.e.*, by a birth- or baptismal-certificate. For a knowledge of the present state of health of the person to be assured the Company relies, as before stated, chiefly on the opinion of its medical examiner. But this is not sufficient, and, in order to

come to a thorough appreciation of the risks it will have to run, and to cover them by the amount of the premium charged, the Company requires to be thoroughly acquainted with the habits and past history of the candidate for assurance, and for this knowledge it has to depend upon his statements only. It will thus be seen that the Company may be induced to enter into a contract without knowing its exact nature and dangers, if untrue or wilfully wrong statements are made on any point.

In his treatise on the law of Life Assurance, Mr. Bunyon, one of the greatest authorities on this subject, quotes the following opinion of a learned judge that "not only must the party proposing the assurance abstain from making any deceptive representation, but he must observe the utmost degree of good faith, *uberrima fides*. Not only is he required to state all matters within his knowledge, which

he believes to be material to the question of the assurance, but all which in point of fact are so. If he conceals anything which he knows to be material it is a fraud; but besides that if he conceals anything which may influence the rate of premiums which the underwriter may require, although he does not know that it would have that effect, such concealment entirely vitiates his policy. An entire disclosure of all facts known to the assured must therefore be made, and not only so, but all representations made by him as to the material facts must be substantially correct, and to this may be added that where a representation amounts to a warranty it must not only be substantially but literally true."

As this quotation shows, the law on the subject is exceedingly stringent. It seldom happens, however, that Assurance Companies avail themselves of their powers of annulling

a policy on the ground of misrepresentation, except in very aggravated cases. Their leniency is to be admired, for it cannot be doubted that they are often deceived in this way.

For the sake of convenience most Companies have adopted a form of questions to be answered by the candidate. These are put by the medical officer at the time of the examination, and relate, as we have said before, to the habits past and present of the candidate, his usual state of health, and the medical history of his family. Persons are often apt to resent some of these enquiries on the part of the examiner, entirely forgetting that a circumstance which to them may appear perfectly trivial, may have the most important bearing on their future state of health and expectation of life, and that the doctor is acting in the capacity of a trusted servant of the Company, and in duty bound to protect it to the best of his ability.

The answers to these questions are, as a rule, taken down by the examiner, and read over by him to the proposer, who is then required to sign a declaration at the foot of the report to the effect "that the answers are true, and that they shall be made the basis of the contract, and further that any false statement, misrepresentation, or omission shall render the assurance null and void." This declaration must be signed in the presence of the medical examiner, who acts as a witness to the signature. By this means personation, that is, the substitution of a healthy person for a weakly candidate at the examination, is effectually prevented. This form of fraud has, in former days, often been practised on Assurance Companies.

The policy usually contains the enumeration of the risks of the underwriter, and it should be remembered that when once the premium is

paid the risk is begun, and on no account can there be a return of the money. So that if a person commit suicide or be killed in a duel the very next day, the assurer is discharged and the premium forfeited.

With regard to suicide, it must be admitted that the law is somewhat unsatisfactory. It is almost always enacted that suicide renders a policy, *ipso facto*, null and void. Most Offices, however, as before said, now regard it, even in cases of self-murder, as in force so far as any third person has a *bona fide* interest in it, while some go the length of paying, in any case, the surrender value of the policy as on the day preceding death. We would go even further than this, and, with Dr. Sieveking, consider that "unless suicide is committed within a certain space of time from the first issue of the policy, it ought to be regarded

like any other accident to be provided for by the rates of insurance."*

To prevent gambling transactions in assurance policies, it is enacted by 14 Geo. III., cap. 48, that every assurance is void, whether on life or any other event, if the person for whose benefit or on whose account the policy has been granted, shall have no *bona fide* interest in it.

By the Married Women's Property Act 1882, 45 and 46 Vict., cap. 75 (amended 1870 Act), " a married woman may affect a policy upon her own life, or the life of her husband, for her separate use . . . . . . A policy of assurance effected by any man on his own life,

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* That these risks can be easily calculated will be seen on looking over a table of the causes of death during a certain number of years. We thus find that from 1858 to 1871, a period of fourteen years, 19,393 persons put an end to their own lives in England, the average number being 1,371 a year; the greatest ranges being from 1,248 in 1859 to 1,588 in 1869.

and expressed to be for the benefit of his wife or of his children, or of his wife and children, or any of them, or by any woman on her own life, and expressed to be for the benefit of her husband or of her children, or of her husband and children, or any of them, shall create a trust in favour of the objects therein named, and the monies payable under such policies shall not, so long as any object of the trust remains unperformed, form part of the estate of the assured, or be subject to his or her debts. Provided, that if it shall be proved that the policy was effected and the premiums paid with intent to defraud the creditors of the assured, they shall be entitled to receive, out of the policy, a sum equal to the premium so paid." . . . . . . This new Act also states: "that the assured may, by the policy or any memorandum under his or her hand, appoint a trustee or trustees of the moneys payable

under the policy and from time to time appoint a new trustee or trustees thereof, and may make provision for the appointment of a new trustee or trustees thereof, and for the investment of the moneys payable under such policy."

Married women are now, therefore, placed on exactly the same footing with respect to Life Assurance as their husbands. This Act does not apply to Scotland; the original 1870 Act, somewhat amended and much improved, was extended to that division of the Kingdom in 1880, under the name of "The Married Women's Policies of Assurance (Scotland) Act."

SELECTION OF AN OFFICE.

We will now say a few words on the selection of an Office. The subject is one of importance, for on it may depend the safety of the savings of a lifetime, and, perhaps, the fortune of a family.

One hundred and ten Offices send in yearly returns to the Board of Trade, so that we have a large number to choose from. Of these, many are of old standing and very good, while some of the younger ones are established, perhaps, on sounder principles, and are doing a very prosperous business. But a few others, to say the least, must be pronounced less strong than could be wished.

With regard to the *form of the Company*, we think it matters very little whether it be a *mutual* or a *mixed* one. In the *mutual*, no doubt, the whole of the profits go to the assured, but, in return, they have also to share the risks, while in the *mixed*, the latter fall to the lot of the shareholders only. So that, as long as the share of the profits paid to the proprietors is not exorbitantly high, we do not see any great advantage in choosing a *mutual* rather than a *mixed* Office.

The chief point to be considered is, without doubt, the *safety of the Company*, and the only way to judge of this is by the total of its accumulated funds in proportion to its age and its liabilities, and also to the amount of its annual income from all sources. Many of the older Companies have accumulated funds equal to four or five times their annual incomes; but young Companies cannot be expected to achieve such a result at once, nor is it necessary they should, the maturing of their liabilities being more remote.

It has been said by a writer on this subject that in making choice of an Office due regard should be paid "to the position of the directors and manager." With this opinion we fully agree, and we should apply the test to the manner in which they carry on the business, or, in other words, their *economy in the management* of the Office. Thus, we should

consider the directors and manager of a Company which only spent five per cent. of its annual receipts for its expenses of all kinds, to bear a far higher character than those of another Office spending fifty per cent. for the same purpose, *unless the Office were of modern date, in which case the percentage of its expenses to income must necessarily be large.* An economically-conducted Office usually means a prosperous one, in which reasonable sums only are expended in commissions and advertisements.

The amount of *the yearly premium* is the point we should consider next. It is of course far preferable to assure in a sound Company charging high premiums than in an unsound one charging low rates, the slight extra premium being a very small charge for the increased safety. But even taking two Offices equally sound, equally economical in their management, but charging different rates,

the one with the lower scale of premiums would not *ipso facto* be the better one to choose. The difference in the rates depends entirely, as we have said before, upon the tables on which they are calculated and the amount by which they are loaded. The Office charging the higher premiums would, no doubt, be distributing proportionately larger bonuses, so that, in point of fact, the cost of assuring in the dearer Company would be no higher than in the cheaper one.

Some Companies still charge the old *Northampton* rates. The peculiar feature of these rates is that, as before said, owing to the errors in the table of mortality on which they are based, the premiums charged at the early ages are a good deal in excess of the ordinary ones, while the reverse occurs at the advanced ages. In consequence of this all persons assuring in these Companies when

young are heavily mulcted for the benefit of those who only enter at a late period of life.

The last point we would touch upon in regard to the selection of an Office is that of bonuses. All other conditions being equal, it stands to reason that the Company dividing the larger share of profits among its members is the more advantageous one to choose. Thus, of two *mixed* Companies equally safe, equally well managed, and charging the same premiums, we should prefer to assure in the one handing over four-fifths of its profits to the lives assured rather than in the one distributing only two-thirds in the same way.

In conclusion, we would advise all to choose a good Office and assure at as early an age as possible, for thus they will reap the fullest benefits of this admirable institution of Life Assurance and that at the very lowest cost.